Consumers Power
POWERING MICHIGAN'S PROGRESS
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Nuclear Regulatory Commission
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DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
COMPLIANCE WITH PRESSURIZED THERMAL SHOCK RULE
10CFR50.61 - ADDITIONAL INFORMATION

Consumers Power Company letter dated August 7, 1986 provided a corrected value of RT_{PTS} for the Palisades reactor vessel beltline material, a preliminary analysis of a flux reduction program for the Palisades reactor vessel and a schedule for implementation of that flux reduction program. The schedule committed Consumers Power Company to provide, by September 30, 1987, a report describing fluence reduction for Cycle 8 and expected future results of the fluence reduction program.

In preparation for submittal of that report, a telephone conference was held with NRC staff on September 9, 1987. During the telephone conference, the staff informed us that the existing RT_{PTS} correlation of 10CFR50.61 will probably be changed within the next two years and that the change will incorporate the correlation of Reg Guide 1.99 draft revision 2 into 10CFR50.61. The staff further advised us to model our flux reduction program to comply with the proposed change. This was affirmed during a subsequent telephone conference with the staff on September 24, 1987.

The proposed change to the RT_{PTS} correlation of 10CFR50.61 affects the flux reduction program for the Palisades reactor vessel by emphasizing the high nickel content of the axial welds and thus makes the fluence effect on the axial welds the length of life limiting factor; heretofore under the existing 10CFR50.61, the base metal material was the length of life limiting factor. This change may cause a major shift in the method of flux reduction used in the design of cores for future fuel cycles. Consumers Power Company will follow the advice of the NRC staff and design future cores to emphasize reduction of fluence in accordance with the criteria of Reg Guide 1.99 draft revision 2. This will cause additional involvement by our fuel vendor (Advanced Nuclear Fuels) and additional analyses by our Reactor Engineering Department.

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In view of the proposed 10CFR50.61 changes and staff advice, the original September 30, 1987 date for submitting a report on the flux reduction program for Cycle 8 and expected future results cannot be met.

The following is our schedule to determine if the Palisades reactor vessel can meet the existing 10CFR50.61 screening criteria, using the proposed Reg Guide 1.99 draft revision 2 RT_{PTS} correlation, by implementing core design changes.

a. CPC performs new Cycle 8 Fluence Analysis and submits report including reactor vessel status to NRC — 04/01/88

b. CPC analyzes Cycle 9 Loading Pattern to maximum EOL and submits report to NRC — 12/01/88

Using the proposed Reg Guide 1.99 draft revision 2 correlation and if no flux reduction were implemented, the Palisades reactor vessel would be in compliance until sometime in 1991 (during Cycle 9). While the above flux reduction analysis schedule is being implemented, we will plan an analysis using the guidelines of Reg Guide 1.154 "Format and Content of Plant-Specific Pressurized Thermal Shock Safety Analysis Reports for Pressurized Water Reactors" for compliance with 10CFR50.61.(b)(4). If the flux reduction analyses do not indicate an acceptable duration of life for the Palisades reactor vessel and the proposed changes to 10CFR50.61 are implemented, we intend to perform the planned 10CFR50.61.(b)(4) analysis.

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Staff Licensing Engineer

CC Administrator, Region III, NRC
NRC Resident Inspector - Palisades